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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/202,634	03/03/1999	ROLAND SCHUBERT	9725.13-US-W	3169.

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MERCHANT & GOULD PC
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

EXAMINER
EINSMANN, JULIET CAROLINE

ART UNIT	PAPER NUMBER
1634	

DATE MAILED: 03/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/202,634	SCHUBERT ET AL.	
	Examiner	Art Unit	
	Juliet C Einsmann	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 December 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) *5-7,12-14,22,24-26,30-32,34 and 37* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,8-11,15-21,23,27-29,33,35 and 36* is/are rejected.

7)☒ Claim(s) *4,8-10,27-29,33,35 and 36* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Election/Restrictions

1. A restriction requirement under 35 U.S.C. 121 was put forth in paper number 16. The restriction requirement did not clearly address the fact that this application was filed under 35 U.S.C. 371 and therefore should be treated under unity of invention standards according to the PCT rules. The following requirement maintains the groupings of the previous requirement but properly addresses the restriction under the PCT rules.

2. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-4, 8-11, 15-21, 23, 27-29, 33, 35, and 36, drawn to drawn to nucleic acids that confer ozone-inducible gene expression in a transgenic plant, transgenic plants, and methods of making transgenic plants, classified in class 536, subclass 24.1, for example.

Group II, claim(s) 5-7, 12-14, 22, 24-26, 30-32, and 37, drawn to drawn to drawn to nucleic acids that confer pathogen-inducible (but not ozone inducible) gene expression in a transgenic plant, transgenic plants and methods for making transgenic plants, classified in class 536, subclass 24.1, for example.

Group III, claim(s) 34, drawn to drawn to hybridization methods for detecting ozone-responsive sequences, classified in class 435, subclass 6.

3. The inventions listed as Groups I-III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The nucleic acid molecule recited in claim 1 of group I is anticipated in the prior art. Fischer teaches a nucleic acid which comprises instant SEQ ID NO: 1 (see p. 152). Since the

claims are broadly drawn to encompass nucleic acids comprising SEQ ID NO: 1, the teachings of Fischer anticipate at least instant claim 1. Applicant is reminded that PCT Rule 13.2 states "The expression "special technical features" shall mean those technical features that define a contribution which each of the claimed inventions, considered as a whole, makes ***over the prior art***. (emphasis added)" Since the DNA sequence of claim 1 is anticipated, this claim provides no special technical feature over the prior art.

4. Furthermore, even if SEQ ID NO: 1 were not known in the prior art, the instant claim set is still not linked by a special technical feature. The special technical feature of group I is that it has the nucleic acid sequence recited in claim 1 (SEQ ID NO: 1). Group II, on the other hand specifically recites that the claimed promoter regions do not have SEQ ID NO: 1, thus, the nucleic acid sequence which is central to group I is specifically excluded from being part of group II. It is impossible for the special technical feature of group II to be identical to that of group I because the claims specifically exclude the presence of the nucleic acid recited in group I. The special technical feature of group III is the methodology used to carry out the goals of the hybridization method. This methodology has different goals and method steps from the methods that are included with group I.

5. Applicant's previous election of group I, in paper number 18 applied herein to this restriction under lack of unity practice. Affirmation of this election must be made by applicant in replying to this Office action. Claims 5-7, 12-14, 22, 24-26, 30-32, 34, and 37 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant's election with traverse of group I in Paper No. 18 is acknowledged. The traversal is on the ground(s) the nucleic acid sequences of group I and group II have the same sequence, and invariably have the same function (p. 2 of response). This is not found persuasive because as discussed in the lack of unity requirement, the nucleic acids of group I do not have the same sequence as the nucleic acids of group II. The nucleic acids of group I require SEQ ID NO: 1, while those of group II specifically exclude SEQ ID NO: 1. Furthermore, with regard to the function of the nucleic acid sequence, the nucleic acids of group I are specifically recited to the ability to regulate ozone-inducible gene expression, while the nucleic acids of group II are specifically prohibited from having this function. Applicant asserts on page one of the response that the groups are connected by the finding that the DNA sequence according to claim 1 is able to mediate ozone-inducible expression, and that means that both groups I and II are directed to the same DNA sequence. However, it is not clear how it is possible that the two groups are directed to the same sequence when the claim language of claim 5, for example, specifically excludes the "at least the DNA-sequence as set forth in claim 1." The presence of a sequence in one set of claims (group I) and its absence in another set of claim (group II) is not a special technical feature which links the claims.

Specification

6. This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR 1.821(a)(1) and (a)(2). However, this application fails to comply with the requirements of 37 CFR 1.821 through 1.825 for the following reason(s):

(A) The claims recite a nucleic acid sequence that properly identified with a sequence identifier.

In order to comply with the requirements of the sequence rules (37 CFR 1.821 - 1.825), Applicant must submit a new CRF and paper copy of the Sequence Listing containing these sequences, in addition to the previously listed sequences, an amendment directing the entry of the Sequence Listing into the specification, an amendment directing the insertion of the SEQ ID NOs into the appropriate pages of the specification and a letter stating that the content of the paper and computer readable copies are the same.

7. The disclosure is objected to because of the following informalities: Table 1 and the description of Table 1 appear twice, once on pages 32-33 and once on page 34. Furthermore, Table 1 (both copies) is objected to because it appears that the incuction factor of the VstI promoter deleted to –280 for the F1 generation is wrong. The table recites "20" when it should say "2.0."

Appropriate correction is required.

Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-4 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The rejected claims are drawn to DNA sequences. The claims do not contain any language which indicates that the DNA sequences are isolated or purified from their natural form. Because the claims read on polynucleotides that would occur in nature, untouched by the hand of man, these claims, as broadly drawn, encompass non-statutory subject

matter. This rejection may be overcome by amendment of the claims to include, for example, language clarifying that the claimed nucleic acids are intended to be isolated and/or purified nucleic acids.

Claims 35 and 36 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Objections

9. Claims 4, 8-9, 10, 27-29, 33, 35, and 36 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. These claims are improperly dependent because they do not incorporate all of the limitations of claim 1 from which they depend. Claim 1 requires the entire SEQ ID NO: 1 be present, while the claims that are objected to require only that portions of the SEQ ID NO: 1 be present.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 1-4, 8-11, 15-21, 23, 27-29, 33, 35, and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. The examiner has attempted to identify all major problems with the claim language herein, but it is strongly recommended that applicant also thoroughly review the claims for compliance with 112 2nd paragraph as well as for clarity and the use of proper English.

Claim 1 is indefinite because it is not clear if the claim is intended to be drawn using open or closed claim language, because the claim has no transitional language. None of the claims which depend from claim 1 remedy this problem, and therefore they are all indefinite for the same reason. For the purposes of prosecution in this case, the claim has been given its broadest reasonable interpretation and has been interpreted as being an open type claim. It has been interpreted as if the claim recited "comprising" language, because at page 7 of the specification, applicant specifically notes "the ozone-responsive DNA sequence range, which is described here for the first time, comprises base pairs –270 to –430 of the VstI promoter from grapevine."

Claim 3 is indefinite over the recitation "and corresponds to base pairs –270 to –430" because it is not clear what sequence these numbers are referencing.

Claim 4 is indefinite over the recitation of "especially of at lease 60%" because it is not clear if this is intended to be a limitation in the claimed invention.

Claims 4, 8-9, 15-18, and 36 are indefinite over the recitation of "can convey an ozone-inducible gene expression" and/or the recitation "is able to convey" and/or the recitation "which render possible" and/or "can take place" and/or "are able to detoxify reactive oxygen species" and/or "which can be used" because capability is a latent characteristic and the claims do not set forth the criteria by which to determine capability. That is, it is not clear whether the recited DNA molecules or plants, as appropriate, have the potential, for example, to convey ozone inducible gene expression or do in fact convey the ozone inducible gene expression. Amendment of the claims to recite positive limitations would obviate this rejection. For example, amendment of "can convey" to read "which conveys..." would obviate this rejection.

Claims 8 and 9 are further indefinite over the recitation of "as well as said sequence" because it is not clear what this phrase is referring to, or what it is trying to convey.

Claim 9 is indefinite over the recitation "which render possible an ozone-inducible expression of the coding regions in plants contained in said molecules" because the phrase "the coding regions" lacks proper antecedent basis in the claims, and furthermore, it is note clear how plants can be contained in chimeric molecules (i.e. the recitation "in plants contained in said molecules.").

Claims 10, 11, and 15-21 and 23 are indefinite over the recitation "a promoter region or a chimeric nucleic molecule as set forth in claim 1" because it is not clear that claim 1 sets forth either of these things. Thus, this recitation lacks proper antecedent basis in claim 1.

Claims 11 and 15-20 are indefinite because it is not clear what is meant by "constituents of such plants."

In claims 11 and 15-20 the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claims 11 and 15-20 are indefinite over the recitation of "etc." because it is not clear what is encompassed by this designation.

Claim 15 is confusing. Repetitive use of the phrase "in which" makes it unclear what is being referred to in the claim.

Claim 16 is indefinite over the recitation of "those genes" because the claims lack proper antecedent basis for "those genes." It appears that perhaps the claim may be referring to genes "whose gene products in plant cells are able to detoxify reactive oxygen species" but this is not clear from the language of the claim.

Claim 19 is indefinite over the recitation "dicotyle plants as set forth in claim 11" because claim 11 does not set forth dicotyle plants, and thus, this phrase lacks proper antecedent basis in the claim.

Claim 20 is indefinite over the recitation "monocotyle plants as set forth in claim 11" because claim 11 does not set forth dicotyl plants, and thus, this phrase lacks proper antecedent basis in the claim. Furthermore, claim 20 is indefinite over the recitation of "especially grain" because it is not clear if grain is thus required as part of the claimed invention.

Claims 27-29, 35, and 36 are indefinite because they do not clearly recite positive process steps.

Claim 29 is further indefinite over the recitation of "processes, as set forth in claim 27," but there are no processes set forth in claim 27.

Claim 33 is indefinite because the preamble of the claim recites "a method for producing ozone-inducible characteristics in transgenic plants or plant cells" but the only method step in the claim recites inserting the DNA sequence as set forth in claim 1 into those genes which are not naturally or substantially inducible through ozone. The claim does not make a connection between the making of transgenic plants or cells and the insertion of the DNA sequence of claim 1 into a gene.

Claims 35 and 36 provide for the use of the DNA-sequence as set forth in claim 1, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim Rejections - 35 USC § 112

12. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 8 and 9 rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. MPEP 2163.06 notes "If new matter is added to the claims, the examiner should reject the claims under 35 U.S.C. 112, first paragraph - written description requirement. In re Rasmussen , 650 F.2d 1212, 211 USPQ 323 (CCPA 1981)." It is noted that in an

application filed under 35 U.S.C. 371, the specification as originally filed is the originally filed PCT application. In this case, the problematic claim limitation was added to the rejected claims by amendment during the processing of the PCT application.

In the instantly rejected claim, the new limitation of "with the exception of nucleic acid molecules that comprise the VSt1 promoter region occurring naturally in the Vst1-promoter 3' of the sequence, set forth in claim 1, as well as said sequence" in claims 8 and 9 appears to represent new matter. No specific basis for this limitation was identified in applicant's paper, nor did a review of the specification by the examiner find any basis for the limitation. Specifically, the exclusion proviso in which specifically excludes "nucleic acid molecules that comprise the VSt1 promoter region occurring naturally in the Vst1-promoter 3' of the sequence, set forth in claim 1, as well as said sequence" is not found in the specification. As noted by MPEP 2173.05(i),

> "Any negative limitation or exclusionary proviso must have basis in the original disclosure. See Ex parte Grasselli , 231 USPQ 393 (Bd. App. 1983) aff'd mem., 738 F.2d 453 (Fed. Cir. 1984). The mere absence of a positive recitation is not basis for an exclusion. Any claim containing a negative limitation which does not have basis in the original disclosure should be rejected under 35 U.S.C. 112, first paragraph as failing to comply with the written description requirement."

Since no basis has been identified, the claims are rejected as incorporating new matter.

13. Claims 16, 17 and 28 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

These claims are drawn to transgenic plants which exhibit an ozone-inducible expression of genes whose gene products in plant cells are able to detoxify reactive oxygen species,

particularly transgenic plants wherein the transgene is catalase or supreoxide-dismutase. Claim 28 is drawn to methods of making such plants.

The specification provides a portion of the promoter from the V. vinifera Vst1 gene which is critical for ozone-inducible activity in the promoter (Example 4). In the examples, applicant provides deletion promoters of the Vst1 gene promoter and transfrom plants with constructs comprising this promoter attached to a reporter gene (Example 2). Applicant hypothesizes that such constructs would be useful for detoxifying reactive oxygen species (p. 9, for example), but no data is provided to support this hypothesis.

The prior art does not provide any examples of ozone-inducible promoters, or of the use of such promoters for the detoxification reactive oxygen species in plant cells or transgenic plants.

The state of the art for modification of gene expression or of phenotypic characteristics in plants by genetic transformation is highly unpredictable and hence significant guidance is required to practice the art without undue experimentation. In genetically modified plants, the introduced transgenes are sometimes not expressed, and they can also result in co-suppression effects. None of these effects are predictable, and the mechanisms of gene silencing are still not fully understood. Moreover, the phenotypic characteristics that will result from expression of a given DNA construct cannot be reliably predicted. In fact, often the expected phenotypic result is not achieved.

Given the unpredictability in the art of plant transformation to obtain a specified phenotype, the instant invention is not enabled for claims drawn transgenic plants which exibit detoxification of oxygen reactive species. There has been no showing of a nucleic acid whose

transformation in transgenic plants results in the detoxification of the plants of oxygen reactive species. In the absence of such guidance, undue trial and error experimentation would be required to screen through the myriad of different DNA constructs and the vast number of transgenic plants to determine how to carry out the methods of the claimed invention. When all of the above is weighed, it is concluded that undue experimentation would be required to practice the invention throughout the full scope of the claims.

14. Claims 4, 10, 27, 33, 35, and 36 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The rejected claims are drawn to plant DNA sequences, trangenic plants comprising said sequences, or methods of transformation of the transgenic plants. Each of the rejected claims recites modification of the sequence provided in SEQ ID NO: 1 by homology language, or the claim require only that a fragment of SEQ ID NO: 1 be present or utilized. Instant SEQ ID NO: 1 is a portion of the V. vinifera Vst1 gene promoter which applicant has identified as being essential for the promoter to mediate the induction of heterologous genes via ozone. Applicant has not provided any examples of shorter fragments of SEQ ID NO: 1 that still retain the function of SEQ ID NO: 1. Furthermore, with regard to claim 4, the claim encompasses sequences which are "a derivative or an alleleic variant of the DNA-sequence set forth in claim 1, and which differs from said sequence by naturally occurring or artificially introduced variations, such as deletions, insertions, substitutions, additions, recombinations..." Essentially, claim 4 encompasses any possible DNA sequence which is able to convey ozone-inducible gene

expression because the language of the claim provides no required structure for the claimed promoter since the number and type of allowed changes is unlimited. This large genus is represented in the specification by one species, SEQ ID NO: 1.Thus, applicant has express possession of only one species in a genus which comprises hundreds of millions of different possibilities.

With regard to the written description, all of these claims encompass nucleic acid sequences different from those disclosed as SEQ ID No: 1 which, for claims 4 includes modifications by permitted by the % identity language for which no written description is provided in the specification. In promoter sequences, there is often little or no homology between sequences which retain the same function. For example, Guiltinan *et al.* teach that "it is known that 5' and 3' regulatory regions of genes, while often sharing overall functional similarities, do not share a high degree of sequence homology (sentence bridging pages 19-20)."

It is noted that in Fiers v. Sugano (25 USPQ2d, 1601), the Fed. Cir. concluded that

> "...if inventor is unable to envision detailed chemical structure of DNA sequence coding for specific protein, as well as method of obtaining it, then conception is not achieved until reduction to practice has occurred, that is, until after gene has been isolated...conception of any chemical substance, requires definition of that substance other than by its functional utility."

In the instant application, only the nucleic acid sequence of the disclosed SEQ ID Nos are described. Also, in Vas-Cath Inc. v. Mahurkar (19 USPQ2d 1111, CAFC 1991), it was concluded that:

> "...applicant must also convey, with reasonable clarity to those skilled in art, that applicant, as of filing date sought, was in possession of invention, with invention being, for purposes of "written description" inquiry, whatever is presently claimed."

In the application at the time of filing, there is no record or description which would demonstrate conception of any proteins modified by addition, insertion, deletion, substitution or inversion with the disclosed SEQ ID No: 1 but possessing one or more nucleic acid differences such that a different nucleic acid sequence would have the ability to regulate ozone-inducible expression of transgenes.

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

16. Claims 1-4, 11, 15, 18, 19, 21, 23, 27, 29, 33, 35, and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Fischer (1994, Dissertation, "Optimierung der heterologen Expression von Stilbensynthasegegen fur den Pflnzenschutz" Institut fur Biotechnologie, Universitat Hohenheim).

Fischer teaches a plant DNA sequence which is the promoter for the Vitis vinifera Vst1 promoter (p. 152-153). The promoter taught by Fischer comprises instant SEQ ID NO: 1 (the nucleic acid recited in claim 1 is instant SEQ ID NO: 1). Fischer further teaches vectors which contain SEQ ID NO: 1, as well as transgenic tobacco plants which contain the vectors comprising SEQ ID NO: 1 (section 3.3.1). It is noted that Fischer does not specifically teach that ozone-inducible gene expression of a gene that does not naturally occur can take place in these plants, however this is an inherent property of the plants transformed with the vectors taught by

Fischer, wherein the vector is driving the expression of a reporter gene. Fischer further teaches methods for making such plants. Applicant is reminded that "The claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable (MPEP 2112)."

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

18. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

19. Claim 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Fisher in view of Logemann *et al.* (US 5689045).

Fischer teaches a plant DNA sequence which is the promoter for the Vitis vinifera Vst1 promoter (p. 152-153). The promoter taught by Fischer comprises instant SEQ ID NO: 1 (the nucleic acid recited in claim 1 is instant SEQ ID NO: 1). Fischer further teaches vectors which contain SEQ ID NO: 1, as well as transgenic tobacco plants which contain the vectors

comprising SEQ ID NO: 1 (section 3.3.1). It is noted that Fischer does not specifically teach that ozone-inducible gene expression of a gene that does not naturally occur can take place in these plants, however this is an inherent property of the plants transformed with the vectors taught by Fischer, wherein the vector is driving the expression of a reporter gene. Fischer further teaches methods for making such plants. Fischer teaches that the promoter utilized in their methodology is pathogen responsive, particularly responsive to *B. cinerea*.

Fisher does not teach monocot plants.

Logemann *et al.* transgenic plants that are pathogen-resistant, particularly plants that are the monocot corn (Col. 5, lines 38-42, for example). Logemann *et al.* teach the transgenic plants of their invention demonstrate resistance to the fungus Botrytis (Col. 3, line 10). Logemann *et al.* further teach that the promoter used in the transformation construct can be a pathogen-inducible promoter (Col. 4, lines 49).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to have combined the methods and products taught by Fischer with those taught by Logemann *et al.* in order to have provided monocot plants which comprise the promoters taught by Fisher. The ordinary practitioner would have been motivated to produce such plants in order to have provided monocot plants with increased resistance to the fungal pathogen Botrytis which is known to attack a wide range of plants, including many monocots.

Conclusion

20. No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juliet C. Einsmann whose telephone number is (703) 306-5824.

The examiner can normally be reached on Monday through Friday, from 9:00 AM until 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, W. Gary Jones can be reached on (703) 308-1152. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4242 and (703) 305-3014.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

JEFFREY FREDMAN
PRIMARY EXAMINER

Juliet C. Einsmann
Examiner
Art Unit 1634

February 26, 2002